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Book Review

At the Crossroad of Evolutionary Psychology and Feminism

A review of M. Fisher, J. R. Garcia, and R. Chang (Eds.), *Evolution's Empress: Darwinian Perspectives on the Nature of Women*. Oxford University Press, 2013, 485 pp., US\$69.99, ISBN # 978-0-19-989274-7 (hardcover).

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Evolutionary psychology is a hybrid field that is informed by diverse disciplines. In spite of the integration of an evolutionary psychology perspective into varied fields including, but not limited to, biology, psychology, anthropology, sociology, economics, and primatology, the assimilation of evolutionary paradigms into the realms of feminist research has seemed, at best, narrow, and at worst, misguided. Fisher, Garcia, and Chang have come together to produce *Evolution's Empress*, an edited volume that attempts to create a fresh dialogue between those in the field of evolutionary psychology and those in women's studies. The book's preface offers an excellent summary of the challenges that exist to bridge the two fields. This section is written impartially and attributes misunderstandings among scholars in both camps to a lack of understanding of the basic tenets of the opponent's field. In doing so, the authors stress how theories of "what is" (empirically shown) from evolutionary psychology, and ideas of "what ought to be" (morally achieved) from women's studies, might one day resonate together in a unified framework. However, in parallel to this discussion, the authors note that their intent for compiling the book was to clarify the "active" role of women in evolution. The desire to promote the theme of "active women in evolution" can lead to an equally misrepresentative view of male "inactiveness". One way to alleviate this issue could have been to also integrate topics where both men and women had faced the same selection pressures throughout evolutionary history, thereby stressing the "sameness" of the sexes in these areas. Indeed, as the authors note, sex differences are one of the most contentious arenas for integration of the two fields. In stating this omission, we recognize more generally that the book is far from comprehensive and acknowledge that the authors themselves grant this in the introduction. An important consideration about this book is that it was intended for readers from both evolutionary psychology and women's studies backgrounds and therefore it seeks to combine theory from two fields rather than summarize it. Ultimately, the authors succeed in establishing a discussion on the integration of women's studies and

evolutionary psychology research, and have made a clear effort to bring together diverse scholars to shed light on the hopeful assimilation.

The book is organized into five parts, which we now discuss. Part one entitled “Sex Roles, Aggression, Competition, and Cooperation” includes four sub-chapters. The first chapter, written by Maryanne Fisher, provides an overview of competition among women. Fisher’s chapter stresses that, in contrast to the longstanding view that women are the less dominant of the sexes, they can exhibit high degrees of competitive behavior; however, researchers will only see this if they examine competition in realms which are relevant to women. In discussing what we know about women’s competition, Fisher boldly claims that the notion that men are more aggressive “is simply inaccurate” (pp. 23) and using social psychology, as well as cross-cultural and biological approaches, she outlines findings to support her argument. In doing so, she provides the reader with an engaging and comprehensive look at what it means to compete as a woman and why women would compete in the first place. The biological basis of female competition is however discussed only briefly. For example, while an outline of shifts in female competitive behavior across the menstrual cycle is present (this is also later mentioned in Escasa-Dorne, Young and Gray’s chapter), discussion of how hormonal contraceptives, which are now widely used, subsequently alter this process is very limited. Furthermore, dialogue of how testosterone relates to female competitive behavior (e.g., Bateup, Booth, Shirtcliff, and Granger, 2002; Cashdan, 2003), which may be an interesting area for future studies on this topic, is also absent.

In continuation of the themes in chapter one, Laurette Liesen’s second chapter overlaps with Fisher’s discussion of female competition, but places greater focus on non-human primates and the importance of female social groups. She distinguishes between direct and indirect aggression and discusses how females are often more likely to engage in the latter in their fight for status. In doing so, she highlights how the different definitions of aggression and dominance are evolving in the literature. Although not referred to directly, this discussion is reminiscent of Henrich and Gil-White’s (2001) distinction between dominance and prestige in the human literature. Given the diversity of definitions across studies, it is somewhat difficult to draw parallels and conclusions from their findings. This is particularly true when making cross-species comparisons where dominance may be defined conceptually differently. However, this criticism holds more broadly and is thus not a specific shortcoming of this chapter.

In chapter three, Liza Moscovice, elaborates on differences in male and female social structures and provides a review of how social relationships influence health and fitness. She concludes that bonobos may be the best living model for study of social bonds (pp. 77) due to their high levels of social tolerance and cooperation. In contrast, chimpanzees, while also social and group-living, do not show as much flexibility in their associations over time, with relationships being stable over longer periods. The chapter is a comprehensive read, and stresses the gaps in the study of primate dominance through acknowledging most information on the topic comes from a limited number of species and takes place at a few specific field sites.

Part one of the book concludes with a chapter by Patricia Gowaty on the topic of sex-neutral theoretical frameworks, which she argues are necessary to infer the origins of

sex roles. The chapter is particularly vocal in identifying what Gowaty feels are contentious theories of sex roles. While we concede that use of sex-neutral models may prove interesting in testing her theoretical ideas, and agree that the study of fitness variation outcomes from diverse reproductive decisions can be tested, we eagerly await the data testing these concepts. Gowaty outlines several “strong inference” tests she claims will clarify if a sex-neutral model better explains sex roles than the more common existing sex differences model, which we are positively encouraged by. This chapter could have fit equally well within the last part of the book entitled “New Disciplinary Frontiers”.

Part two, entitled “Mothers and Parenting” is comprised of five sub-chapters. In the first, Kathryn Coe and Craig Palmer jointly discuss mothers’ roles in society. In keeping with this book’s theme, they argue that mothers are active agents; however mothers’ main contributions are (or were historically) to maintain traditions while curbing cultural change and innovation. Coe and Palmer suggest that in our recent history, traditions were mainly rooted in helping to recognize kin (e.g., wearing a specific type of dress, sharing an ancestral tribal name etc.) which they argue could lead to heightened cooperation amongst distant kin. Perhaps the most compelling of their assertions is that “when you have no ancestors, you have no blueprint for how to succeed” (pp. 126). The authors present two lines of evidence for mothers’ and grandmothers’ active roles in tradition transmission: cooking and storytelling. With this well-written chapter Coe and Palmer provide a logical link between evolutionary psychology and women’s studies as they inform readers of women’s influential contributions throughout history, even via seemingly “womanly” activities including cooking. However, they also astutely assert that in a modern world, the sexes are not bound to certain stereotypical behaviors and that “there is no need to fear that the patterns of behavior favored by natural selection in the past dictate what we should desire or what is possible to achieve in the future” (pp. 129).

In chapter two, Nicole Cameron and Justin Garcia discuss the importance of maternal effects on offspring development. With support from rodent models, the authors argue that environmental conditions can affect a mother’s internal state (e.g., hormonal influences) or behavior (e.g., rate of licking and grooming, nursing, etc.) which can in turn impact offspring behaviors and life-history characteristics. They then discuss human maternal effects on offspring with respect to development, reproduction, and risk-taking. This chapter further outlines the importance of mothers on “shaping the very nature of the individual that child will become,” (pp. 145) leading the reader to interpret maternal effect as being quite “active”. However, it is important to remember that in certain circumstances, some outlined in this chapter, mothers are incapable of actively manipulating the information, which their offspring receives (i.e., low socio-economic status, in-utero hormonal release, etc.). Consequently, there appear to be a combination of both “active” and “passive” maternal effects on offspring. This chapter may have additionally benefitted from some mention of paternal investment and its effect either directly on offspring characteristics or even as a mediator of subsequent maternal effects.

Chapter three, by Lesley Newson and Peter Richerson, concerns how flexible parenting evolved in humans. The authors outline the large variation in human female reproduction and argue that this plasticity may have helped human expansion into new and uninhabited niches. With mention of other primates and their rather restrictive, non-flexible

parenting methods, the authors present a case for the evolution of cooperative breeding in humans as a means for this plasticity to occur. They also argue using three lines of evidence that cooperative breeding may have evolved prior to complex culture and the institution of marriage and pair-bonds. While this chapter is well written and informative, it does not fit directly with the major theme of this book in terms of the “active” roles for women, in that it broadly touches on the benefits of cooperative breeding and is not focused on the role of females per se. Additionally, the authors touch upon the transition from close-knit family groups to large-scale social networks and their importance in forming our reproductive values; however more mention of technological advances with respect to changing reproductive beliefs and behaviors would be welcome. As a whole however, it does provide interesting insights into human evolution through cooperative breeding, and subsequent territorial expansion.

In the penultimate chapter of part two, Rosemarie Sokol Chang discusses vocalizations made between attached partners: from isolation calls, to infant-directed vocalizations, and even tantrums and whines. While the author reasserts, as previous chapters have, that mothers are the main infant caregivers, this chapter does not appear to have the same motivational drive as others in showing women playing an active role in human evolution. She concludes that maternal care may affect the socio-emotional state of children, thereby associating it to the maternal effect discussed by Cameron and Garcia above; however, human vocalizations can be produced by all members of one’s group and hence these potential effects are not specific to mothers. In her concluding remarks, Chang does suggest that future studies involved in examining the variation in human parent vocalizations, and their effects on offspring attachment, are needed. This, alongside elaboration of how motherese may have played a role in language evolution would help to clarify and elaborate on the active role played by women in evolutionary history.

To conclude part two, Laura Betzig presents interesting evidence from 32 English kings, who reigned between 1066-1936, to evaluate the hypothesis: “a mother should side against her husband, but with her son” (pp. 188). By examining sons of mothers whose father was a king, or those whose mother was an heiress, Betzig concludes that queens (especially powerful ones) are inherently interested in promoting their son’s fitness. This chapter is a fascinating read, however, for non-historians it is somewhat cumbersome, owing to the many Henrys’, Charles’, Edwards’, etc. (and their wives) who reside in the pages of history and make an appearance in this chapter. Additionally, Betzig’s data are not sufficiently convincing to support her case. One of four predictions reaches significance: sons’ had a longer tenure as king if their mother was an heiress. However, discussion points include: “mothers may or may not have been implicated” (pp.193) in the death of their husbands, John and Henry V, and “again it isn’t clear how responsible their mothers could have been” (pp. 196) for the deaths of their husbands Henry VII and Charles I. Additionally, it may be that powerful kings (some variation in power may have existed just as Betzig asserts for queens) married powerful women, and offspring of these unions tended to have longer tenure by virtue of their inheritance (both through mother and father). Without being a historian, these inconsistencies and alternate explanations may lead readers to puzzle over the significance and generalizability of Betzig’s findings.

Part three of the book continues under the theme of “Health and Reproduction” and

contains four sub-chapters. In the first of these chapters, Chris Reiber carefully brings together women's health and epidemiology research using an evolutionary perspective. She stresses that a number of seemingly basic processes (e.g., menstruation, premenstrual syndrome (PMS), and menopause) are poorly understood, not in terms of what happens to a woman's body, but in terms of why they happen in the first place. Reiber argues that use of an evolutionary approach in medicine is likely to lead to novel insights and non-traditional perspectives, which in turn, have the potential to provide more complete explanations of medical phenomena. Unfortunately, the reader is left wondering how evolution has thus far informed these or similarly pertinent topics. For example, reference to changes that an evolutionary perspective has brought about with respect to the study of reproductive disorders (e.g., Eaton et al., 1994) or perhaps how contemporary use of hormonal contraceptives interferes with adaptive mate choice (e.g., Alvergne and Lummaa, 2010) may have complemented this discussion.

Bobbi Low then delivers a chapter on fertility from a life history or behavioral ecology perspective. She begins with a cross-species comparative discussion in which she describes the distinctiveness of human fertility: humans have heavier birth weights than expected; however, are subsequently weaned more quickly than predicted. She progresses to discuss factors, which influence female age at first birth and fertility more generally (i.e., age, reproductive value, access to resources, number of existing children). This is followed by a discussion of human mating systems, which is reminiscent of some of the material present in part two of the book. Finally, she discusses how cultural factors can influence fertility, drawing specific reference to the demographic transition to smaller families in concert with the notion that particular levels of parental investment are best suited to particular environments. She concludes with a discussion of the vast within-species variation in investment, and posits that evolution at the extremes, that is high and low resource environments, is most apparent. This chapter is easy to follow, comprehensive and well-written.

In Chapter three of this section Johannes Johow, Eckart Voland and Kai Willführ focus on female reproductive strategies in the post-reproductive life phase. The thesis of this chapter was simple: the postmenopausal phase of the female life is both strategic and flexible. They outline a range of topics including adaptive shifts in sociosexuality during menopause. The authors maintain that while interest is growing in this area, much of the evolutionary significance of grandparenting is unclear or controversial. For example, they provide evidence of negative outcomes due to the presence of the patrilineal grandmother. The authors also present an overview of sexual antagonistic selection, describing how individual gains can come at the cost of lowered inclusive fitness. Taken together, this suggests grandmothers (like everyone else) are "active" in strategically managing their own self-interests. The chapter succeeds in putting forward an overview of the potentially adaptive post-reproductive evolutionary strategies that exist in women and how these may subsequently predict differential investment in kin.

In the final chapter of this section Michelle Escasa-Dorne, Sharon Young and Peter Gray deliver a piece entitled "Now or later: Peripartum shifts in female sociosexuality". They first describe cross-species and cross-cultural norms with respect to sex during pregnancy. Here they assert that sex, at this time, may strengthen relationship ties or, in

some cultures, allow women to obtain further partners (“secondary father”) who will invest additionally in offspring. They discuss the underlying hormonal mechanisms that may promote sexual behavior generally, but also specifically when pregnant or in the peripartum period and while breastfeeding. While this chapter points to an interesting and understudied avenue for evolutionary psychology to inform medicine and relationship research, we worry that women’s studies researchers may conclude that the view from this chapter is that women are in some way reduced to their role in reproduction as “slaves to their hormones”, yet we are uncertain how one might curtail this. Perhaps a discussion of how women are not uniquely influenced by their hormones upon the transition to motherhood and that men undergo comparable changes (e.g., upon the transition to fatherhood: Gray et al., 2006; Pollet et al., 2011) may have been of value.

Section four of the book was on “Mating and Communication” and starts with a chapter by Linda Fedigan and Katharine Jack discussing sexual conflicts in white-faced capuchins. Fedigan and Jack paint an interesting picture of the volatile male white-faced capuchin, from him being very social and providing allocare (when in a stable group) to being infanticidal and aggressive (when taking over a territory). They discuss that females are generally thought of as “‘losers’ when the reproductive interests of males and females diverge” (pp. 282) and are thus always developing counter-adaptations to males’ adaptations. Fedigan and Jack attempt to explain the sexual conflicts between male and female capuchins using a more sex-neutral framework of “action and reaction” which draws parallels with Gowaty’s chapter in the first section of this book. They describe some of these actions and reactions such as females’ strategies to confuse paternity (through cryptic cycling) and discourage a single male from monopolizing reproduction (by all cycling concurrently). They also mention male’s “reactions”, such as using copulatory plugs and having larger testes to increase paternity certainty and chances of siring offspring when sperm are in competition. Overall this chapter is well structured, interesting, and does well in its attempts disentangle sexual conflict from the sex-stereotypical terminology often used in the field.

The next chapter in part four, authored by David Frederick, Tania Reynolds, and Maryanne Fisher, relates to female choice. The authors provide an introduction to female choice, and outline sexual strategies theory and strategic pluralism, as well as how relatives and others can limit female choice and the ways in which females can deal with it. There is a lot of repetition in this chapter with concepts described in the previous chapters. For example, the theoretical underpinnings of this topic, including Bateman and Trivers’ work regarding the differential reproductive potential between male and female mammals, were re-outlined at length. There is also quite a lengthy amount devoted to paternity uncertainty and infanticide, which were also covered in the previous chapter. To reach the meat of the chapter (namely how females exert some choice even in societies where it seems that they cannot), there was a lot of preamble, which, having been covered in other chapters up until now, was perhaps unnecessary. Overall this chapter did portray women as active agents in their mate choice, even when faced with constraints; however a longer discussion of this subject would have been welcome.

In chapter three Christopher Wilbur and Lorne Campbell discuss the ways in which women actively provide the means for men to sweep them off their feet (i.e., the broom)

with a specific focus on humor. Like both preceding chapters, the authors start with a detailed summary of the differential parental investment between the sexes as a way to motivate their argument for the necessity of female choice. Their main thesis is that women are actively listening to men's humor and using it to evaluate men's intelligence, warmth, and in effect genes; they surmise that "when a women laughs at a man's jokes, she therefore may be providing him with the broom with which to sweep her off her feet" (pp. 341). This chapter is well written and witty; however, there is a lot of repetition from previous chapters. Additionally, in their study two the authors suggest that humor is related to "good genes" as they found a correlation between humor and intelligence. Ultimately future studies need to be performed that examine genetic links or heritability of humor.

The final chapter was the only chapter in the section dedicated to communication and examined communication differences between the sexes. In this chapter, Elisabeth Oberzaucher discusses the need for both sexes to understand how the other communicates in order to mitigate gender inequality. Oberzaucher provides a very detailed and complex summary of what communication is, which may not be entirely integral to the understanding of the existing gender differences in communication. Again, differential investment between women and men with respect to offspring care are discussed. This discussion is followed by literature on the topic of cognitive and non-verbal/behavioral sex differences. Oberzaucher argues that partilocality in early humans drove women to seek close connections with non-kin in order to garner help for offspring care. This chapter flags up interesting sex differences in communication strategies and provides a comprehensive starting point to future discussions of how modern day technology may impact on communication strategies.

The book concludes with a section entitled "New Disciplinary Frontiers". Given that the integration of women's studies and evolutionary psychology is in its infancy, this section certainly seems pertinent. In the first of five sub-chapters in this section, Tami Meredith presents a chapter considering female priorities and motivations. She begins by discussing how the field of evolutionary psychology was male biased at its inception, which she argues has been undeniable in predisposing research to be from a male perspective. She offers the hunter-gatherer distinction as an example of this bias. She then moves on to talk about this issue with respect to combat, competition, goal setting with respect to risk-taking, and motivation. The sections on combat and competition were reminiscent of the themes brought forward in Fisher's chapter in part one, wherein it was argued that women exhibit competition and can be combative in realms that are relevant to them. In this discussion, sexual dimorphism is described as an explanation for sex differences in why women do not compete in terms of physical strength, and it is stressed that women are "active" agents in evolution in their own way.

In the second chapter Nancy Easterlin presents a literary critique of Charlotte Bronte's *Jane Eyre* through an evolutionary psychology lens. Again, there is an extensive background of parental investment and reproductive strategies. Easterlin then provides a brief synopsis of the book before delving into the issues of *Jane Eyre*'s relationship with both Mr. Rochester and her cousin St. John. She puts forward the notion that both men were trying to exert some control and ownership over Jane, in a sense use her as a reproductive resource (as findings from evolutionary psychology may predict); however at

the same time acknowledges Jane's desire for autonomy and sexual equality. She posits that through Rochester's accidental injury and disfigurement, as well as through Jane's inheriting thousands of pounds, the power dynamics shift such that at the conclusion of the novel both characters are truly on equal footing. This chapter provided a refreshing look at gendered power structures in history and explained Charlotte Brontë's willingness to give her heroine autonomy. On the other hand it provides an exaggerated account of real world behavior, making it hard to see how this fits in as a "New Frontier"; however as a standalone chapter it is thought-provoking and novel.

In the third chapter, Julie Seaman presents a piece on "The Empress's Clothes". She argues that sex differences in dress can broadly be explained as a result of sexual selection. Specifically, she describes how sex based stereotypes with respect to "appropriate appearance" are intimately related to status and power. These stereotypes then result in the sex with the most power being relatively unornamented. Real world cases, where both men and women have brought lawsuits against their employer with respect to uniform or related appearance mandates, are integrated throughout the chapter. In her discussion of these cases, Seaman highlights a particularly applied arena in government policy for the synergy of feminism and evolutionary psychology. She stresses that dress can serve as a form of communication that portrays societal stereotypes and perceived power differences in the social hierarchy. The chapter explains common cultural norms for dress in light of evolutionary literature; however it would have been of further value if the discussion had extended to how individual differences in dress are predicted by evolutionary paradigms.

The fourth chapter, by Michele Pridmore-Brown, is on cooperative breeding and the disestablishment of biological clocks. This chapter, in particular, emphasized the active role of women in reproduction. This is accomplished through a well-constructed presentation on the relatively novel degree of control, which women have established over their reproduction. Specifically, the ability for women to carefully control their reproductive timing has resulted in an older age at first birth within Western societies. This delay in reproductive timing, afforded by modern technology such as contraception and in-vitro fertilization, means that women are able to acquire greater resources and independence prior to having a family. This, Pridmore-Brown explains, is making women less dependent on their male partner for investment thereby undermining the concept of men as the major providers. It also allows for homosexual or single women and men to have all the affordances of male-female pairs with respect to child-rearing. Technology, in this sense, can be seen as disrupting the established patriarchal institutions that amplify the value of female, but not male, youth and its associated connection to fertility. Combining women's studies views with evolutionary psychology may help to bridge the politics of using technology to aid reproduction while simultaneously considering biological constraints of the female body.

The book concludes with a chapter by Leslie Heywood on the challenges and prospects of integrating evolutionary psychology and women's studies. She begins by discussing the common observation that the two fields will never be fully synthesized. This view is grounded in the fact that the former is viewed as non-political empirical science while the latter is seen as entirely politically entrenched. She stresses differences between the disciplines by presenting a table of the basic tenets of each camp. She criticizes work of

prominent evolutionary psychologists for claiming that their theories predict flexibility in female response while subsequently identifying robust sex differences in behavior. She continues to attack the passive means through which women are displayed in this literature before arguing that the language used throughout this literature creates further contention between the fields. She stresses that constellations of meanings for words have created semantic arguments between the camps, going as far as to later state “a good deal of the conflict between evolutionary psychology and feminism has been semantic, while only some of it has been conceptual” (pp. 457). She concludes by presenting her version of how the fields can be reconciled in what she terms “the extended synthesis” which stresses the need to examine the interaction rather than distinction between symbolic systems, behavioral systems, culture more generally and genetics. Arguably this could have been the first chapter in the book.

So, should you read *Evolution's Empress*? Yes. This book is certain to provide a useful starting point for researchers who wish to integrate women's studies into evolutionary research paradigms and vice versa. We feel that the book caters more specifically towards those in the field of evolutionary psychology; however, it may prompt evolutionary scholars to begin to see women's studies more objectively, as well as to become more aware of nuances in terminology between the fields. Consequently, they may acknowledge the male bias currently perceived in the literature and attempt to circumvent it by providing clear definitions, and ultimately by using sex-neutral frameworks. If these changes came about, then the editors' desired shift for researchers to acknowledge the “active” role of women in evolution will have been prompted. Further progress in this area may be accomplished through increased focus on cultural variation and contextual variability. Indeed, these topics have long been studied among women's studies scholars. The book offers a useful historical account of the staunch divide between the two fields, making it clear that progress is already being made to bridge rather than further divide theory. A unified theory will be crucial in the future, as technological advances (i.e., social media, medicine, etc.) will be inherently pertinent, and present new challenges for scholars in both fields. These challenges may be of applied relevance to society, in domains such as policy planning. Enabling a dialogue between different theoretical perspectives, which were once divided, will be imperative to inform non-biased decision-making. One cannot help but feel enthusiastic about the interesting prospects for future research that this book engenders.

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